

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1-21 (cancelled)

22. (currently amended) A [[C]]cycle pedal comprising:

a pedal body (1) ~~constituted of~~ comprising a ~~globally~~ rectangular horizontal plate (2) ~~fitted on its~~ having an upper surface; ~~with~~

means for locking (5, 6) a cyclist's shoe (8) disposed on the upper surface; and on one of its longitudinal edges

a case (3) containing a pedal pin (4) designed to be fixed to ~~the~~ a free end of a crank (41), the case being disposed on a longitudinal edge of the horizontal plate;

~~characterised in that~~ wherein the plate (2) is secured to the case (3) so that ~~its~~ the upper surface extends beneath the pedal pin (4) along a distance (a) and a ~~the~~ support axis (7) of the shoe on the pedal plate (2) ~~which merges with the front plate passing through the metatarsus of the cyclist's big toe when the latter is pedalling,~~ extends in front of the pedal pin (4) along a distance (b), the support axis being defined as an axis merging with the front plate and passing through a metatarsus of a cyclist's big toe when said cyclist is pedalling with said cyclist's foot fitted in a cycling shoe interlocked with the

cycle pedal, so that the pedal support axis (7) describes a circular curve with centre O' and radius r' offset downward from (a) downwards and forward from (b) forward relative to the a circular curve of the pedal pin (4) with centre O, where O' is the axis of the cycle bottom bracket shell and of radius r, and in that

wherein the means for locking (5, 6) comprises: ~~on one hand,~~

a front interlocking mechanism (5) designed to co-operate with ~~the a~~ front part of a clip (9) integral with ~~a the~~ sole (10) of the cyclist's shoe (8) and, ~~on the other hand,~~

a movable rear interlocking mechanism (6) designed to co-operate with ~~the a~~ rear part of the clip (9) of the shoe (8), the movable rear interlocking mechanism (6) being movable under ~~the~~ pressure of the rear part of the clip (9) of the shoe (8) from a position called interlocked, and passing through an open position allowing to insert or remove the rear part of the clip (9) of the shoe (8), until returning to the interlocking position under stress from an elastic means (20).

23. (previously presented) Pedal set forth in claim 22, characterised in that the plate (2) movable plate (25) on its upper surface designed to slide longitudinally and on the upper surface of which merge the means for locking (5, 6) a cyclist's shoe (8) in order to adapt the longitudinal position of said

means for locking (5, 6) of the shoe (8) according to the shoe size of the cyclist or even to adjust the distance b separating the pedal pin (4) from the support axis (7).

24. (previously presented) Pedal set forth in claim 23, characterised in that the plate (2) comprises at least two longitudinal openings (28) crossed by two bolts (29) designed to co-operate with two threaded holes made in the lower surface of the movable plate (25).

25. (new) Pedal set forth in claim 22, characterised in that the front interlocking mechanism (5) consist in a recess (11) made in the upper surface of the plate (2), in its front part, and in which a clamp (12) is located which slightly juts out from the upper surface of the plate (2) and in which a lug (13) fits jutting out from the front part of the clip (9) of the cyclist's shoe (8).

26. (currently amended) ~~Pedal set forth in~~ The pedal of claim 22, ~~characterised in that~~ wherein the front interlocking mechanism (5) ~~consists in~~ comprises a stud (37) extending vertically from the upper surface of the plate (2), ~~in its front part,~~ and ~~comprising a~~ retention means (38) at its an upper end of the front interlocking mechanism, said stud (37) being constructed and arranged to lodge ~~lodging~~ into a V-shaped recess (39) ~~made in~~

a lug (13) which juts out from the front part of the clip (9) of the cyclist's shoe (8), ~~and which is V-shaped at the bottom of which a globally~~ semicircular complementary recess (40) being disposed at a bottom of said V-shaped recess, the semicircular recess having a ~~is made whose~~ diameter that is slightly bigger than ~~the~~ a diameter of the stud (37).

27. (currently amended) ~~Pedal The pedal of set forth in~~ claim 26, ~~characterised in that~~ wherein the retention means (38) ~~consist in~~ comprises a flange.

28. (currently amended) ~~Pedal set forth in~~ The pedal of claim 26, ~~characterised in that~~ wherein the retention means (38) ~~consist in~~ comprises radial ribs.

29. (previously presented) Pedal set forth in claim 22, characterised in that the movable rear interlocking element (6) consists in a clamp (14) articulated about a transversal pin (15) extending from the rear of the plate (2) and on the lower end of which leans a spherical mounting (16) located at the free end of a rod (17) extending longitudinally beneath the transversal hinge pin (15) of the clamp (14) and integral with a piston sliding within a longitudinal recess (19) made in the plate (2) and opening out onto the rear end of said plate (2), said piston (18)

leaning against a coil spring (20) located in said longitudinal recess (19).

30. (previously presented) Pedal set forth in claim 29, characterised in that the rod (17) consists of a threaded rod co-operating with a threaded hole (21) made in the piston (18) sliding along the longitudinal recess (19).

31. (previously presented) Pedal set forth in claim 30, characterised in that the free end of the swivel mounting (16) comprises a screw head (22) extending across an opening (23) made in the lower end of the clamp (14) and opening out onto its rear surface.

32. (previously presented) Pedal set forth in claim 30, characterised in that the swivel mounting (16) leans against a concave hollow (24) whose radius of curvature is identical to that of the swivel mounting (16).

33. (previously presented) Pedal set forth in claim 23, characterised in that it comprises means for varying the distance b separating the pedal pin (4) from the support axis (7) of the shoe (8) on said pedal throughout the entire revolution of the pedal during the action of pedalling.

34. (previously presented) Pedal set forth in claim 33, characterised in that it comprises a connecting rod (49) of which a first end is freely mounted in rotation about an eccentric (50) of a case (51) integral with the free end of the crank (41) and whose second end comprises a transversal pin (52) about which the front end of the movable pedal plate (25) is freely mounted in rotation which is designed to slide longitudinally along the upper surface of the plate (2), the rear part of said pedal plate (2) being freely mounted in rotation about the axis of the end of the crank (41).

35. (previously presented) Pedal set forth in claim 22, characterised in that it comprises a belt (43) extending along the crank between a drive pinion (44) integral with the bottom bracket shell and a driven pinion (45) integral with the case (3) of the pedal so that the rotational movement of the crank (41) rotates the pedal plate (2) about the pedal pin (4).

36. (previously presented) Pedal set forth in claim 35, characterised in that the driven pinion (45) is integral with the case (3) of the pedal by elastic means (46).

37. (previously presented) Pedal set forth in claim 36, characterised in that the driven pinion (45) is integral with the case (3) of the pedal by means of a coil spring (46) located on

the inside of a circular recess (47) made in the driven pinion (45) so that the axis of the spring is coaxial to the axis of rotation of the driven pinion (45), the ends of the coil spring (46) being respectively integral with the driven pinion (45) and the case (3) of the pedal.

38. (previously presented) Pedal set forth in claim 37, characterised in that it comprises a safety gear case (48) designed to be fitted onto the crank (41) to cover the belt (43) and the drive (44) and driven (45) pinions.

39. (new) A cycle pedal comprising:

a pedal body comprising a plate having an upper surface;
means for locking a cyclist's shoe disposed on the upper surface;

a case containing a pedal pin for attachment to a free end of a crank, the case being disposed on an edge of the plate;

wherein the plate is secured to the case so that the upper surface extends beneath the pedal pin along a distance (a) and a support axis of the shoe on the pedal plate extends in front of the pedal pin along a distance (b), the support axis being defined as an axis merging with the front plate and passing through a metatarsus of a cyclist's big toe when said cyclist is pedalling with said cyclist's foot fitted in a cycling shoe interlocked with the cycle pedal, so that the pedal support axis

describes a circular curve with centre O' and radius r' offset downward from (a) and forward from (b) relative to a circular curve of the pedal pin with centre O , where O' is the axis of the cycle bottom bracket shell and of radius r ,

wherein the means for locking comprises:

a front interlocking mechanism designed to co-operate with a front part of a clip integral with a sole of the cyclist's shoe and,

a movable rear interlocking mechanism designed to co-operate with a rear part of the clip of the shoe;

wherein the front interlocking mechanism comprises a stud extending vertically from the upper surface of the plate and a retention means at an upper end of the front interlocking mechanism, said stud being constructed and arranged to lodge into a V-shaped recess in a lug which juts out from the front part of the clip of the cyclist's shoe, a semicircular complementary recess being disposed at a bottom of said V-shaped recess, the semicircular recess having a diameter that is slightly bigger than a diameter of the stud.

40. (new) The pedal of claim 39, wherein the retention means comprises a flange.

41. (new) The pedal of claim 39, wherein the retention means comprises radial ribs.